

## **REMARKS/ARGUMENTS**

### **I. Claim Amendments**

Claim 1 is amended herein to specify that the optical test system also provides “means for retrieving” latched data from a device under test. This amendment is discussed in more detail in section II below.

Similarly, claim 8 is amended include the method step of reading latched data from an integrated circuit that is included within a device under test.

Claim 13 is amended to indicate that the optical fiber is “held securely by” the tube. An explanation as to how this limitation differs from the cited references is provided below.

Claim 16 is amended to clarify that the photosensitive elements are adapted “to cause test data to be captured upon excitation” of the photosensitive elements by light. Also, a minor typographical error in a reference to the photosensitive elements, and some redundant language, have also been eliminated.

Claim 21 is amended to include the method step of “reading the stored electrical state of the circuit node from the storage element.”

### **II. Rejection of claims 1-10 and 16-20 under 35 U.S.C. § 103**

Claims 1-10 and 16-20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Rao (U.S. Pat. No. 5,812,708) and Paniccia (U.S. Pat. No. 6,052,498).

#### **A. Claims 1-7, 8-10 and 20**

Claim 1, an independent claim, is amended herein to include “means for retrieving the latched data from said device under test.” Claim 8, also an independent claim, now includes a method step of “reading the latched data from said integrated circuit.”

Rao neither involves nor suggests testing a device, such as an integrated circuit, for example. More specifically, Rao does not suggest or provide any motivation for using light directed on a photosensitive target of a device under test to cause latching of data into said device under test, and then retrieving or reading the latched data. Instead, Rao teaches the use of laser pulses transmitted through a back side of a semiconductor to generate clock signals. See

Rao, abstract; see also Rao, col. 3, lines 28-32. While Rao suggests the possible latching of data by way of the generated clock signals, as indicated by the Examiner (page 2 of the Office action), no indication of retrieving the latched data is provided.

Paniccia also does not involve working with a device under test, such as in testing integrated circuits. Moreover, Paniccia does not suggest or provide any motivation for focusing light onto a photosensitive element of an integrated circuit to cause latching of data into the integrated circuit, and subsequent reading of the latched data. Instead, as recognized by the Examiner, Paniccia generally involves an optical input/output bus. See Paniccia, abstract; see also Paniccia, col. 5, lines 38-44. This functionality is distinguished from the claims of the present invention, which employ light to cause the latching of data within the device under test, as opposed to transporting the actual data by way of light, as would be accomplished by an optical input/output bus.

Thus, it is respectfully believed that, for at least the reasons discussed above, neither Rao nor Paniccia, alone or in combination, disclose or suggest the inventions of claims 1 and 8 as amended herein. As such, claims 1 and 8 are believed patentable under 35 U.S.C. § 103 over Rao and Paniccia, and in form for allowance, and such indication is respectfully requested.

In addition, claims 2-7 and 20 depend from and include all of the limitations of claim 1, and claims 9-10 depend from and include all of the limitations of claim 8. Thus, for at least the same reasons discussed above with regard to claims 1 and 8, it is believed that claims 2-7, 9-10 and 20 are in form for allowance, and such indication is respectfully requested.

#### B. Claims 16-19

Claim 16, an independent claim, is amended herein to include the limitation that the photosensitive elements are “configured to cause test data to be captured upon excitation of said photosensitive elements by light.” As generally discussed above in section II(A), neither Rao or Paniccia disclose or suggest using light directed to a photosensitive element on a semiconductor to capture test data. In fact, no mention at all of test data is made in either Rao or Paniccia.

Thus, it is respectfully believed that neither Rao nor Paniccia, alone or in combination, disclose or suggest the invention of claim 16 as amended herein. As such, claim 16 is considered

patentable under 35 U.S.C. § 103 over Rao and Paniccia, and in form for allowance, and such indication is respectfully requested.

Further, claims 17-19 depend from and include all of the limitations of claim 16. Thus, for at least the same reasons discussed above with regard to claim 16, claims 17-19 are believed to be in form for allowance, and such indication is respectfully requested.

### III. Rejection of Claims 13-15 under 35 U.S.C. § 103

Claims 13-15 are rejected under 35 U.S.C. § 103 as being unpatentable over Rao and Paniccia as applied to claims 1-10 and 16-20, and further in view of Waters et al. (U.S. Pat. No. 4,627,731; hereinafter "Waters") and Lackie (U.S. Pat. No. 5,152,962).

Claim 13, an independent claim, is amended herein to more clearly claim aspects of the invention discussed in the present application. Particularly, claim 13 is amended as follows: ". . . an optical fiber ~~housed within~~ held securely by said tube . . . ."

As observed by the Examiner, Rao does not discuss how the optical fibers and lens are held in place, much less the use of a tube to perform that function. Claim 13, as amended, now more clearly describes a tube within a testing fixture where the tube securely holds a fiber, as indicated in the specification of the current application. It is believed that Rao does not disclose the invention of amended claim 13.

Moreover, amended claim 13 is not inherent in Rao. As discussed in MPEP § 2112, to establish inherency, the missing descriptive subject matter must be necessarily present in the reference. It is not sufficient that the matter may be present. Assuming for the sake of argument that Rao does include some sort of fixture to hold the fiber and lens; Rao, does not discuss any particulars of such a fixture. Thus, the particular aspects of claim 13 directed toward the fixture are not necessarily present in the Rao reference.

It is further believed that neither Paniccia nor Waters disclose or suggest the invention of claim 13, as amended. As in Rao, neither Paniccia nor Waters discuss the use of a tube in any context, much less in relation to securely holding a fiber, as required by amended claim 13.

Additionally, it is believed that Lackie neither discloses nor suggests the subject matter of amended claim 13. The Examiner indicates that "Lackie shows that it is known in the art to use a tube to support an optical fiber for receiving light from a light source and/or transmitting light

to a detector; see supporting tube 38” (page 4 of the Office action). However, the elongated enclosure 38 indicated by the Examiner, which may be referred to as a tube, does not provide support for the associated fiber 36. In general, Lackie discloses an optical assay apparatus for chemical analysis of a fluid sample. See Lackie, abstract. Lackie describes the enclosure 38 as “having an inside diameter greater than the maximum outside diameter of fiber 36, and preferably dimensioned to delimit a predetermined volume” surrounding the fiber. Lackie, col. 4, lines 39-48. Therefore, the enclosure is sized to allow the liquid being assayed to reside within the enclosure alongside the fiber, and thus does not provide any support for the fiber. Instead, the fiber “is connected, preferably integrally, to the interior surface of central recess 42 in end 44 of a mass of material, shown as plug or boss 46.” Lackie, col. 4, lines 56-59; see also Lackie, Fig. 2. Hence, it is believed that the enclosure of Lackie does not anticipate or make obvious the tube of amended claim 13.

Thus, for at least the reasons discussed herein, it is believed that claim 13 is patentable under 35 U.S.C. § 103 over Rao and Panicia as applied to claims 1-10 and 16-20, and further in view of Waters and Lackie.

Furthermore, claims 14-15 depend from and include the limitations of claim 13. Thus, for at least this reason, it is also believed that claims 14-15 are patentable under 35 U.S.C. § 103 for the same reasons as claim 13. As such, claims 13-15 are believed in form for allowance, and such indication is respectfully requested.

#### IV. Indication of allowable subject matter in claims 11 and 12

The Examiner is thanked for his indication that claims 11 and 12 contain allowable subject matter in their current form.

#### V. Status of claim 21

In the previous amendment and response filed October 8, 2004, claim 21 was added as a new method claim. It is respectfully noted that the Examiner apparently has not specified the status of that claim in the latest Office action. However, given the reasons provided by the Examiner in relation to the rejected claims of the current application, claim 21 has been amended to further include the step of “reading the stored electrical state of the circuit node from the

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storage element." Claim 21 is believed in form for allowance, and such indication is respectfully requested.

#### VI. Conclusion

For at least the various reasons discussed herein, it is believed that claims 1-21 are in form for allowance, and such indication is respectfully requested.

A petition for a one-month extension of time to respond to the December 31, 2003 Office action is hereby requested. A check in the amount of \$110.00 is enclosed with this Amendment to cover the extension of time fee. It is believed no further fees are due with respect to filing of this amendment; however, if any application processing fees are required, the Commissioner is hereby authorized to charge deposit account number 04-1415.

The Assignee respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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By



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